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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/763,135	06/05/2001	David Seneor	3848-010270	3534

7590 04/19/2005

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EXAMINER

BRUENJES, CHRISTOPHER P

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/763,135

Applicant(s)

SENEOR, DAVID

Examiner

Christopher P Bruenjes

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20050211.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 11, 2005 has been entered.

WITHDRAWN REJECTIONS

2. The claim objections to claims 3 and 7 of record in the Office Action mailed November 10, 2004, Pages 2-3 Paragraph 4, have been withdrawn due to Applicant's amendments in the Paper filed February 11, 2005.

3. The 35 U.S.C. 102 rejections of claims 1, 3, and 9 as anticipated by Robbins of record in the Office Action mailed April 2, 2004, Pages 3-4 Paragraph 6, have been withdrawn due to Applicant's amendments in the Paper filed February 11, 2005.

Art Unit: 1772

4. The 35 U.S.C. 103 rejections of claims 2 and 6 over Robbins in view of Bartelloni of record in the Office Action mailed April 2, 2004, Pages 5-6 Paragraph 7, have been withdrawn due to Applicant's amendments in the Paper filed February 11, 2005.

Claim Rejections - 35 USC § 102

REPEATED REJECTIONS

5. The 35 U.S.C. 102 rejections of claims 4, 7-8, and 10 as anticipated by Robbins are repeated for the reasons set forth previously in the Office Action mailed April 2, 2004, Pages 3-4 Paragraph 6. However, for clarification of the rejections in light of the new amendments and added claims the 35 U.S.C. 102 rejection will be rewritten below incorporating the new claims that are also anticipated.

NEWLY WRITTEN REJECTIONS

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 4, 6-8, 10, 13-15, and 19-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Robbins (USPN 5,167,352).

Regarding claims 4, 6-8, and 10, Robbins anticipates a process for manufacturing an underground reservoir for storing liquid products (col.1, 1.13-15). The process comprises the

Art Unit: 1772

step of providing an inner, main reservoir made of carbon steel (col.1, 1.15-18). The process also includes covering an outer surface of said main reservoir with a first coating layer consisting of waxed paper, which is impervious because it is a vapor barrier sheet (col.14, 1.30-41). Although the method of forming the underground reservoir of Robbins also includes foam material added prior to the waxed paper coating the claim as presented is open language and therefore the scope of the claim can include a step of adding a foam layer to the main, inner reservoir prior to applying the impervious paper layer. After the waxed paper layer an outer coating layer of resin is applied thereby forming an outer, secondary reservoir (col.14, 1.30-41). The outer layer of resin is formed with or without fiber-reinforcement from polyurethane (col.12, 1.34-39). Because the outer layer of resin is formed completely from polyurethane and no other additives are mentioned, the polyurethane is inherently made without the addition of any solvents. The thickness of the outer layer is approximately 0.1 inch or 2.54mm (col.12, 1.49-55). Robbins further teaches that the process of manufacturing an underground reservoir comprises a gap (reference number 42, Figure 2), for receiving a sensor (reference number 44, Figure 2), defined between the inner reservoir (reference number 16,

Art Unit: 1772

Figure 2) and the outer reservoir formed of the waxed paper and polyurethane coatings.

Regarding claims 13-15 and 19-22, Robbins anticipates a process for manufacturing an underground reservoir for storing liquid products (col.1, 1.13-15). The process comprises the step of providing an inner, main reservoir made of carbon steel (col.1, 1.15-18). The process also includes covering an outer surface of said main reservoir with a first coating layer of aluminum foil, which is impervious liquids and moisture (col.23, 1.28-65). After the aluminum foil layer, an outer coating layer of resin-soaked fiberglass sheeting is helically applied in an airless process, thereby forming an outer, secondary reservoir (col.26, 1.60-68). The resin is formed of polyurethane (col.26, 1.49-53). Because the outer layer of resin is formed completely from polyurethane and no other additives are mentioned, the polyurethane is inherently made without the addition of any solvents. The thickness of the outer layer is approximately 0.1 inch or 2.54mm (col.30, 1.30-34). The outer reservoir is formed of resin-soaked polyurethane, which is an electrically insulating non-metallic two-component material, because fiberglass and polyurethane are two components, they are not metallic and they are electrically insulating. Robbins further teaches that the process of manufacturing an underground

Art Unit: 1772

reservoir comprises a gap or space for receiving a sensor, defined between the inner reservoir and the outer reservoir formed of the polyurethane fiberglass coating (col.28, 1.50-57). The polyurethane layer is impact resistant because fiberglass matting reinforces it.

Claim Rejections - 35 USC § 103

REPEATED REJECTIONS

7. The 35 U.S.C. 103 rejection of claim 5 over Robbins in view of Mitchell is repeated for the reasons set forth in the previous Office Action mailed April 2, 2004, Page 7 Paragraph 8. However, for clarification of the rejections in light of the new amendments and added claims the 35 U.S.C. 103 rejection will be rewritten below incorporating the new claims that are also anticipated.

NEWLY WRITTEN REJECTIONS

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Art Unit: 1772

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-3, 9, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robbins (USPN 5,167,352).

Regarding claims 1-3 and 9, Robbins anticipates an underground reservoir for storing liquid products (col.1, 1.13-15). The underground reservoir consists of an inner, main reservoir and an outer, secondary reservoir (col.1, 1.15-18). The inner, main reservoir is made of carbon steel (col.1, 1.15-18 and reference number 16, Figure 2) and foam material (reference number 18, Figure 2). Note the inner, main reservoir is not limited in the claims to only one layer or one specific composition. The secondary, outer reservoir consists of an inner layer consisting of waxed paper, which is impervious because it is a vapor barrier sheet, and an outer coating layer of resin (col.14, 1.30-41). The outer layer of resin is formed with or without fiber-reinforcement from polyurethane (col.12,

Art Unit: 1772

1.34-39). Because the outer layer of resin is formed completely from polyurethane and no other additives are mentioned, the polyurethane is inherently made without the addition of any solvents. The thickness of the outer layer is approximately 0.1 inch or 2.54mm (col.12, 1.49-55). Robbins further teaches that the process of manufacturing an underground reservoir comprises a gap (reference number 42, Figure 2), for receiving a sensor (reference number 44, Figure 2).

Robbins fails to explicitly teach that the gap is formed between the inner, main reservoir and the outer, secondary reservoir. However, Robbins only teaches that the gap for receiving a sensor must be at least at the bottom of the tank and in contact with the foam material of the inner, main reservoir so that fluid vapors or water or other fluids that leak through the carbon steel layer of the inner, main reservoir will flow to the sensor because of the continuously communicating interstitial spaces within the foam material (col.13, 1.55 - col.14, 1.17). Although Figure 2 of Robbins teaches that the space is provided in the middle of the foam material layer, the Figure is only presenting an example of the location for the space and sensor. One of ordinary skill in the art would have recognized that any location that puts the space and sensor in contact with the foam material layer and at the

Art Unit: 1772

bottom of the tank would be functionally equivalent. Therefore, the location is interchangeable and would be determined through routine experimentation depending on the intended end result of the tank, absent the showing of unexpected result.

Therefore, it would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made to select the exact location, such as between the foam material and the vapor barrier sheet, of the gap and sensor based on routine experimentation depending on the intended end result of the tank, absent the showing of unexpected result, while ensuring that the gap and sensor are in contact with the foam material and is at the bottom of the tank, as taught by Robbins.

Regarding claim 17, Robbins teaches all that is claimed in claim 13 as shown above and teaches an embodiment in which impervious paper material is used in construction of the tank, but Robbins fails to explicitly teach a single embodiment that incorporates all of the limitations of claim 17. However, Robbins teaches in a first embodiment a process for manufacturing an underground reservoir comprising the steps of providing an inner, main reservoir, covering the inner reservoir with wax paper, which is impervious, and applying a polyurethane layer, in the form of a second coating layer, over the

Art Unit: 1772

impervious material, thereby forming a two-component outer, secondary reservoir (col.14, 1.30-41). In the first embodiment, Robbins only explicitly teaches processes requiring air spraying. However, Robbins teaches in a second embodiment that the polyurethane coating layer is added to an impervious material layer in other methods besides air spraying.

Specifically Robbins teaches in the second embodiment that the polyurethane layer is soaked onto fiberglass sheeting and then wrapped around the impervious material (col.26, 1.60-68 and col.27, 1.53-62), which is obviously an airless process. One of ordinary skill in the art would have recognized that polyurethane layers are added to impervious sheet layers by multiple well known methods such as helically wrapping polyurethane soaked fiberglass sheeting material or air spraying polyurethane, as taught by Robbins in the second embodiment.

Therefore, it would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made to use the method of the second embodiment of Robbins, including helically wrapping polyurethane soaked fiberglass sheeting in place of the air spraying method of the first embodiment, since Robbins teaches in the second embodiment that the two methods are interchangeable when applying the

Art Unit: 1772

polyurethane layer to the impervious sheet of the outer, secondary reservoir.

9. Claims 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robbins (USPN 5,167,352) in view of Mitchell (USPN 5,090,586).

Robbins teach all that is claimed in claims 4 and 13 as shown above, but fail to explicitly teach jet-blasting portions of the outer surface of said main reservoir to enhance the adhesion of said first coating layer. However, Mitchell teaches that it is a common technique to abrasive or "jet" blast steel for the purpose of enhancing bonding in the dual wall tank art (col. 4 lines 14-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a step in making Robbins to abrasive or "jet" blast the steel main reservoir before applying the tack for bonding the corrugated cardboard to the steel reservoir in order to enhance bonding, as taught by Mitchell.

10. Claims 11-12 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robbins (USPN 5,167,352) in view of Bartelloni (USPN 4,510,019).

Art Unit: 1772

Robbins teaches all that is claimed in claims 2, 6, and 17, but fails to explicitly teach the vapor barrier sheet of paper material is formed from latex-based paper. However, Bartelloni teach that latex-based paper is used in construction as a paper that possesses impermeability, flexibility, and resistance (col.1, 1.19-30). Robbins teaches that the vapor barrier sheet must be resistant and impermeable (col.14, 1.30-41) and teaches two examples, waxed paper and Saran Wrap, which are both impermeable, flexible, resistant materials, for the vapor barrier sheet. One of ordinary skill in the art would have recognized that latex-based paper, which possesses the properties to perform the requirements of the vapor barrier sheet, would be used in forming a barrier between open-cell foam material and an outer resin layer of an underground storage reservoir, because latex-based paper is impermeable, flexible and resistant, as taught by Bartelloni.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the applicant's invention was made to use the latex-based paper of Bartelloni as the vapor barrier sheet of Robbins in order to provide a material that is impermeable, flexible and resistant, as taught by Bartelloni.

ANSWERS TO APPLICANT'S ARGUMENTS

11. Applicant's arguments regarding the claim objections to claims 2 and 7 have been considered but are moot since the rejections have been withdrawn.

12. Applicant's arguments regarding the 35 U.S.C. 102 rejections of claims 1, 3, and 9 as anticipated by Robbins have been considered but are moot since the rejections have been withdrawn.

13. Applicant's arguments regarding the 35 U.S.C. 102 rejections of claims 4, 7-8, and 10 as anticipated by Robbins have been fully considered but they are not persuasive.

In response to Applicant's argument that Robbins fails to teach an inner, main reservoir as one structure, and an outer, secondary reservoir as a two-component coating layer as a structurally independent reservoir, claim 4 is a process defined in open claim language. Because the claim is written in open language another step of adding porous material to the outer surface of the inner, main reservoir before covering that surface with a first coating layer still lays within the scope of the claim. Therefore, because of the process comprises the steps claimed and not consisting only of the steps claimed,

Art Unit: 1772

claim 4 does not teach an inner, main reservoir and secondary outer reservoir having only a gap for receiving a sensor placed in between the two reservoirs.

In response to Applicant's argument that Robbins fails to teach a gap for receiving a sensor defined between the inner reservoir and outer reservoir, the sensor of Robbins (reference number 44, Figure 2) is provided in a space within the porous material that is located between the inner reservoir and the outer reservoir. Therefore, Robbins does teach a gap between the inner and outer reservoirs as they are claimed in claim 4.

In response to Applicant's argument that the present application as represented by Figure 2 and the Robbins patent as represented by the figures are structurally different, the Examiner agrees that this is true, however, claim 4 is not limited to only what is presented in Figure 2.

Other arguments regarding claims 4, 7-8, and 10 have been answered above in the newly written 35 U.S.C. 102 rejections.

14. Applicant's arguments regarding the 35 U.S.C. 103 rejections of claims 2 and 6 over Robbins in view of Bartelloni have been considered but are moot since the rejections have been withdrawn.

Art Unit: 1772

15. Applicant's arguments regarding the 35 U.S.C. 103 rejection of claim 5 over Robbins in view of Mitchell has been fully considered but they are not persuasive.

In response to Applicant's argument that the rejection of claim 5 is overcome for the reasons discussed previously with regard to the independent claim 4, see the response to the arguments regarding the independent claim 4 hereinabove.

Conclusion


16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P Bruenjes whose telephone number is 571-272-1489. The examiner can normally be reached on Monday thru Friday from 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1772

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher P Bruenjes
Examiner
Art Unit 1772
CPB
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April 15, 2005


HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

4/18/05